

WHAT IS CLAIMED IS:

1. A bearing part having a hole portion opening into a surface thereof and hardened at least at said surface by a heat treatment,

5 wherein said surface has a hardness of HRC60 or more and a residual compressive stress of 30MPa or less.

2. A bearing part as claimed in Claim 1, wherein said bearing part is an inner ring or an outer ring.

3. A bearing part as claimed in Claim 1, wherein 10 said bearing part is a large bearing part having an outside diameter of 300mm or more.

4. A bearing part as claimed in Claim 1, wherein said bearing part is a large bearing part for use in a steel rolling mill.

15 5. A bearing part as claimed in Claim 1, wherein said hole portion is a lubrication hole formed so as to intercommunicate an inner peripheral surface and an outer peripheral surface of the bearing part.

6. A bearing part as claimed in Claim 2, wherein 20 said hole portion is a lubrication hole formed so as to intercommunicate an inner peripheral surface and an outer peripheral surface of the bearing part.

7. A bearing part as claimed in Claim 3, wherein 25 said hole portion is a lubrication hole formed so as to intercommunicate an inner peripheral surface and an

outer peripheral surface of the bearing part.

8. A bearing part as claimed in Claim 4, wherein
said hole portion is a lubrication hole formed so as to
intercommunicate an inner peripheral surface and an
5 outer peripheral surface of the bearing part.

9. A bearing part as claimed in Claim 1, wherein
said hole portion is a bolt hole opening into an inner
peripheral surface or an outer peripheral surface of the
bearing part.

10 10. A bearing part as claimed in Claim 2, wherein
said hole portion is a bolt hole opening into an inner
peripheral surface or an outer peripheral surface of the
bearing part.

11. A bearing part as claimed in Claim 3, wherein
15 said hole portion is a bolt hole opening into an inner
peripheral surface or an outer peripheral surface of the
bearing part.

12. A bearing part as claimed in Claim 4, wherein
said hole portion is a bolt hole opening into an inner
20 peripheral surface or an outer peripheral surface of the
bearing part.

13. A bearing part as claimed in Claim 1, wherein
said steel is a bearing steel.

14. A bearing part as claimed in Claim 13, wherein said
25 bearing steel is a high-carbon chromium steel.

15. A bearing part as claimed in Claim 14, wherein said high-carbon chromium steel is JIS SUJ2 or SUJ3 subjected to quench hardening as said heat treatment.

16. A bearing part as claimed in Claim 1, wherein
5 said steel is a case hardening steel subjected to carburizing hardening as said heat treatment.

17. A bearing part as claimed in Claim 1, wherein said steel is a carbon steel for machine structural use subjected to induction hardening as said heat treatment.

10 18. A fabrication method for the bearing part of Claim 1, the method comprising a heat treatment step following a drill work for drilling a steel intermediate material thereby forming the hole portion opening into the surface thereof, wherein the intermediate material is heated to
15 a predetermined temperature and then is quenched and wherein the quenching is terminated at the point of time that a temperature at a portion corresponding to a depth from the surface of said bearing part, to which depth the maximum shear stress affects, is lowered to an MS
20 point at which martensitic transformation starts and then, the intermediate material is air cooled.

19. A fabrication method for the bearing part as claimed in Claim 18, wherein provided that the maximum thickness of said bearing part is expressed as t , the quenching
25 is carried out until the temperature at the portion

corresponding to a depth of $0.5t$ or less from the surface of the bearing part is lowered to said MS point.

20. A fabrication method for the bearing part as claimed in Claim 18, wherein said MS point is in the range of
5 220 to 230°C.